



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

GENERAL INDEX.

The most important classified entries will be found under Contributors, Personals, and Reviews. New names and names of new genera, species, and varieties, are printed in **bold-face type**; synonyms in *italics*.

A

A. A. A. S., Denver meeting 75
 Abies, needles of 356
 Abnormalities 343
 Acacia, amentacea 203, formation 272;
 Berlandieri 272, formation 273; Far-
 nesiana 103, 111, formation 272;
 Wrightii formation 273
 Acanthaceae, Lindau on 71
 Acer grandidentata 263
 Acerates, longifolia 326, viridiflora 326
 Achlya 161
 Acrista, Cook on 435
 Actinella linearifolia 210
 Aecidium Euphorbiae 421
 Aeria, Cook on 435
 Aestivation, abnormal 352
 Agave, heteracantha formation 283; Tou-
 mey on 71, 428; vegetation 281
 Agriculture, organization of Bureau of
 Plant Industry of the U. S., Depart-
 ment of 155
 Alae, abnormal 351
 Alaria, Saunders on new species of 374
 Albugo, candida 91; gametogenesis and
 fertilization in 77, 157, 238; Portulacae
 79; Tragopogonis 85
 Alcoceria, Fernald on 153
 Algae 309; of St. Paul city water, Fan-
 ning on 374; polymorphism in 292;
 Schmidle on 70; Setchell on 70; West
 on African freshwater 430
 Allen, Charles E. 1; personal 443, 444
 Allium Cepa, karyokinesis of 423
 Alniphyllum, Matsumura on 377
 Amarantaceae, Lopriore on 71
 Amblyolepis setigera 210
 Ambrosia artemisiaefolia 78
 America, Urban on new plants of 71
 Anderson, Alexander P., personal 154, 379
 Andropogon furcatus 205
 Anemone Caroliniana 106
 Angiosperms, Hallier on classification of
 431
 Annuals, formation of prairie 201, 208
 Antennaria, Nelson on 434

Apospory, in Anthoceros, Lang on 376
 Apples in cold storage, Corbett on 151
 Aquilegia, pollination in 304
 Arceuthobium pusillum, Wheeler on 64
 Archegonia of Selaginella apus 130
 Argyrostachys, Lopriore on 71, 378
 Aristida fasciculata formation 201
 Arnica, Greene on 153
 Arnold's "The sea beach at ebb tide" 222
 Arnoldi, work of 173, 223
 Artemisia frigida 263
 Arthrostylidium, Pilger on 431
 Arthur, J. C. 307; personal 74, 228; work
 of 374
 Asclepiadaceae, pollen of 327
 Asclepias, Cornuti 326, Strasburger on
 pollen in 433; decumbens 198; incarnata
 326; phytolaccoides 326; speciosa 326;
 Syriaca 326; tuberosa 326; verticillata
 326
 Ashe, W. W., work of 68
 Asplenium, Gilbert on 377
 Auld and Gibson's "Codium" 63
 Autran, Eugène, personal 227

B

Bacteria of leguminous plants, Burrage
 on 429
 Bacterial disease of tomato, Stuart on 429
 Baldwinia, Harper on 378
 Balfour, Bayley, personal 380
 Ball, C. R., personal 156; work of 434
 Banker, H. J., work of 153
 Barnes, C. R., 151, 369, 373, 375, 431,
 432, 435
 Barnhart, John H. 440
 Barton, Ethel S., work of 430
 Basilima 440
Basilima 56
 Bast fibers, middle lamella of 18
 Beal, W. J., personal 228; work of 153
 Beattie and Piper's "Flora of the Palouse
 region" 62
 Bees and flowers 367
 Belajeff, work of 175, 177
 Bennett, Arthur, 58

- Bergen, J. Y., personal 307
 Bernard, C. H., work of 70, 152
 Bessey, C. E., personal 74, 228; "Structure and classification of diatoms" 150
 Bessey, E. A., 64, 66, 67, 151; personal 156
 Bicknell, E. P., work of 70, 377, 435
 Billings, F. H., work of 433
 Boehmeriopsis, Komarov on 434
 Bogue, E. E., work of 68
 Bolley, H. L., work of 68
 Bosqueiopsis, Wildeman and Durand on 377
 Botanical Society of America 380
 Botany, Iowa Summer School of 76
 Botrychium ternatum Oneidense, Gilbert on 71
 Bower, F. O., personal 227; work of 178
 Brackett, Gustavus B., personal 155
 Bray, W. L., 99, 195, 262
 Brayodendron, Small on 378
 Britton, E. G., personal 228
 Britton, N. L., personal 75; work of 71, 72, 153, 379, 443; "Manual of the flora of the northern states and Canada" 426
 Brodie, D. A., work of 68
 Bromeliaceae, Mez on 71
 Bruchmann, work of 170
 Bryobrittonia, Williams on 72
 Bryonia dioica 368
 Bulbilis dactyloides 119
 Bulletin Jard. Imp. Bot., St. Petersbourg 444
 Bumelia lycioides 268
 Bunch grass 285
 Bureau, Ed., personal 443
 Burrage, Severance, work of 429
 Butler, Eloise, personal 155
 Butten, F. K., work of 374
- C
- Cactaceae, structural studies on 35
 Cactus vegetation 278
 Calcium oxalate, function of 142
 Calyx, abnormal 351
 Campanula rotundifolia 263
 Campbell, D. H., personal 228; work of 174
 Carbohydrates, Friedel on synthesis of 430
 Cardiocarpon anomalum, sporangium of 180
 Carex, Komarov on 434
 Caricaceae, Urban on 71
 Carlton, Mark Alfred, personal 156
 Carotin, Tammes on distribution of 431
 Carruthers, W., work of 430
 Castilleia, Rydberg on 378
 Celery blight, Townsend on 64
 Cell plate, theory of 3
 Cell wall 1
 Cellulose 4
 Cenchrus myosuroides 205
 Central America, Fernald on plants of 153; Robinson on plants of 153
 Centrosomes, in Helosis and Lilium, Bernard on 152; Yamanouchi on 375
 Ceram, a tropical forest in 218
 Ceramothamnion, Richards on 71
 Cerastium, Green on 377
 Cercospora apii, Townsend on 64
 Cercosporidium, Earle on 377
 Cercocarpus parvifolius 263
 Cereus, caespitosus 280; Fendleri, anatomy of 40, vascular system of 37; giganteus, anatomy of 46, hypodermis of 38
 Chaetonella, Schmidle on 378
 Chamaebatiaria 58
 Chamaelirium, Small on 377
 Chamberlain, C. J. 64, 66, 67, 69, 150, 153, 223, 224; personal 156; "Methods in plant histology" 372
 Chaparral 197, 274, 277; black 203; formation 206, 270, 276
 Chesnut, V. K., personal 156
 Chester, F. D., work of 151; "Manual of bacteriology" 370
 Chlamydomonas, Whipple on 150
 Chodat, R., work of 70, 71
 Chondrogloea, Schmidle on 378
 Christ, H., work of 153
 Church's "Phyllotaxis" 427
 Cicuta vagans, Brodie on 68
 Clark, Anna M., work of 68
 Classification by seeds, Billings on 433
 Cleistogamous flowers, Du Sablon on 67
 Clematis, abnormal flowers of 352
 Clements, F. E., personal 75, 228; "Phytogeography of Nebraska" 374
 Clinton, G. P., personal 154; work of 71
 Clothier, G. L., work of 67
 Coccomyxa, Schmidle on 71
 Cockerell, T. D. A. 60
 Cocops, Cook on 435
 Coenocentrum 93, 244
 Collenchyma, middle lamella of 20
 Collins, Guy N., personal 154
 Color, distribution of red 332
 Comber, T., work of 430
 Compositae, Rydberg on 378
 Conidia, homology of 168
 Convolvulus arvensis, Pammel on 68
 Contributors: Allen, Charles E. 1; Arthur J. C. 307; Barnes, C. R. 151, 369, 373, 375, 431, 432, 435; Barnhart, John H. 440; Bennett, Arthur 58; Bessey, E. A. 64, 66, 67, 151; Bray, W. L.

- 99, 195, 262; Chamberlain, C. J. 64, 66, 67, 69, 150, 153, 223, 224; Cockerell, T. D. A. 60; Copeland, E. B. 356; Coulter, J. M. 62, 70, 153, 371, 373, 374, 375, 377, 426, 427, 428, 429, 430, 431, 432, 434, 435; Cowles, H. C. 374, 376, 429, 430, 431; Dandeno, J. B. 229, 439; Davis, B. M. 61, 63, 64, 222; Fairchild, David G. 218; Faull, J. H. 381; Fernald, M. L. 359; Frye, T. C. 325, 433; Hefferan, Mary 370; Holway, E. W. D. 421, 422; Johnson, T. C. 303; Kahlenberg, Louis 437; Kraemer, Henry 423; Land, W. J. G. 60; Lawson, A. A. 72, 152; Lewis, A. C. 423; Livingston, B. E. 147, 148, 292; Lyon, F. M. 124, 170, 376, 433; Macallum, A. B. 72; Moore, G. T. 309; Oliver, G. W. 306; Overton, J. B. 434; Preston, Carleton E. 35; Rehder, Alfred 56; Robertson, Charles 367; Schneck, J. 305; Schneider, Albert 142; Shull, G. H. 343; Smith, F. Grace 332; Stevens, F. L. 77, 157, 238; Thomas, M. B. 373; Wilcox, E. M. 226.
- Cook, O. F., personal 154, 156; work of 434
- Copeland, E. B. 356; personal 74
- Corbett, L. C., personal 156; work of 151
- Cornu, Maxime, death of 154; personal 443
- Cornus, Small on 71
- Corydalis aurea 106
- Coulter, J. M. 62, 70, 153, 371, 373, 374, 375, 377, 426, 427, 428, 429, 430, 431, 432, 434, 435
- Coulter, Stanley, work of 429
- Coville, Frederick V., personal 155; work of 434
- Cowles, H. C. 374, 376, 429, 430, 431; personal 74
- Crataegus, Ashe on 68; Britton on 71; Sargent on 71; Small on 377
- Crapulo, Miehe on 377
- Croton, species of the U. S., Ferguson on 428; *Texensis* 289
- Crystals, function of calcium oxalate 142
- Cucurbita Pepo 367; Longo on 63
- Cryptogams of Indiana, Thomas on 428
- Curima, Cook on 435
- Cuscuta, Rydberg on 378
- Cylicomorpha, Urban on 71
- Cynanchoideae, pollen of 325
- Cynanchum vincetoxicum, Strasburger on pollen in 433
- Cyperaceae, Meinshausen on 434
- Cytology, of Albugo 77, 157, 262; of Cyanophyceae 72
- D
- Dale, Elizabeth, work of 375
- Dalla Torre and Harms's "Genera Siphonogamarum" 62
- Dandeno, J. B. 229, 439; personal 307
- Dasyliro Texanum 288, formation 283
- Dasystoma flava, Small on 378
- Davis, B. M. 61, 63, 64, 222; work of 152
- Dawson, Maria, work of 375
- DeCandolle, C., Work of 71
- Dennis, D. W., work of 428
- Denniston, R. H., personal 443
- Dewey, Lyster F., personal 156
- Deyeuxia, Suksdorf on 377
- Diatoms of Africa, Comber on 430
- Dicerandra, Harper on 378
- Dictyocephalus, White on 378
- Dioscorea sativa, aerial tubers in 375
- Diospyros *Texana*, Small on 378
- Diseases, black locust, von Schrenk on 428; oat-smut, Shamel on 64; sear blight, Chester on 151; root-rot of fruit trees, Wilcox on 226; rusts of N. Am. violets, Arthur and Holway on 374; smut, Thomas on 428; tomato, Stuart on 429
- Dorner, Herman B., personal 443
- Draba cuneifolia 106; Greene on 377
- Drymocallis, Rydberg on 70
- Duggar, B. M., personal 156
- Durand, work of 377; and Wildeman's "Reliquiae Deweeanae" 373
- Dusén, work of 375
- E
- Earle, Frank S., personal 379; work of 70, 377
- Eastwood, Alice, personal 228; work of 70
- Echinocactus Wislizeni, anatomy of 44; assimilative tissue of 38
- Echium vulgare, fasciation of 344
- Ecology of Texas, 99, 195, 262
- Ehretia elliptica 268
- Embryo of Balanophoraceae, Chodat and Bernard on 70; of Nelumbo, Lyon on 374; of Selaginella spinulosa 171; protoplasmic continuity in 224
- Embryo-sac of Lilium candidum, Bernard on 153
- Endodermis of Osmundaceae 396
- Endosperm, of Sequoia sempervirens 223; protoplasmic continuity in 224
- Engler, A., work of 71; "Pflanzenreich" 427
- Equisetum, Suksdorf on 377
- Eremosphaera viridis 309

Erigeron Canadense, fasciation of 343
 Ergot, Griffiths on 153
 Ernst, work of 434
 Eupatorium, boreale, Greene on 71;
 brevipes 422; Robinson on 153
 Evax prolifera 106
Excentrosphaera viridis 320
 Experiment station in Porto Rico 227

F

Fairchild, David G. 218; personal 156
 Fanning, W. G., work of 374
 Farlow, W. G., personal 227
 Fasciation 343
 Faull, J. H. 381
 Fedde, Fr., work of 378
 Fendlera rupicola 263
 Ferguson, A. M., work of 428
 Ferguson, Margaret C., 435
 Fernald, M. L., 359; work of 153
 Ferns, Christ on 153
 Fertilization, double in Zea Mays 69; in
 Albugo 77, 157, 238; in Ginkgo biloba,
 Ikeno on 68; in Selaginella apus 131;
 Strasburger's theory of 240
 Fitting, work of 174
 Fistulinella, Hennings on 70
 Flahault, work of 376
 Flora, of Indiana, Coulter on 429; of
 Isle Royale, Wheeler on 374; of Lake
 Maxinkuckee, Scovell on 428; of North
 Dakota, Bolley and Waldron on 68; of
 Oklahoma, Bogue on 68; of Porto Ri-
 co, Underwood on 443; of Red River
 Valley, Wheeler on 374; of South Da-
 kota, Saunders on 6; of S. E. Tennessee,
 Coulter on 429; of West Indies, Britton
 on 443; of Yukon, Britton and Ryd-
 berg on 72
 Flowers, abnormal 346; and insects 367
 Fouquieria splendens 276, 284
 Forest, a tropical in Ceram 218; forma-
 tions 211, 262, 266; xerophytic 215
 Forti, Achille, work of 71
 Frankenia Jamesii 287
 Frasera speciosa 263
 Fraxinus Berlandieriana 268
 Freeman, E. M., work of 374
 Friedel, work of 430
 Frye, T. C., 325, 433
 Fungi, from Porto Rico, Earle on 70, 377;
 Henning on 70; Massee on types of
 378; of Africa, Smith on 430; of west
 America 444
 Fungicides, effect on foliage, Sturgis on
 66

G

Galloway, Beverly T., personal 155, 228
 Gametogenesis in Albugo 77, 157, 238
 Gametophytes of Selaginella 124, 170
 Ganong's "Laboratory course in plant
 physiology" 148
 Garden, New York Botanical 75
 Garden beans, Irish on 428
 Gardner, N. L., personal 155
 Garman, H., work of 67
 Gattinger's "Flora of Tennessee" 428
 Generic nomenclature of cedar apples,
 Arthur on 428
 Geneva convention 307
 Gentiana, Holm on 377
 Geotropism, Giesenhagen on 432
 Gepp, Antony, work of 430
 Geranium caespitosum 263
 Gesneriaceae, Urban on 431
 Gibson and Auld's "Codium" 63
 Giesenhagen, work of 432
 Gigartina exasperata, Humphrey on 374
 Gilbert, Benjamin D., work of 429
 Gilg, E., work of 70, 71
 Gilbert, B. D., work of 71, 377
 Goebel, work of 178
 Goff, E. S., work of 64
 Gow's "Flowering plants of Adair county,
 Iowa" 373
 Gould, H. P., personal 156
 Gramineae, Pilger on 71
 Grass formations 118, 196, 198, 204, 207,
 271
 Grasses, of Iowa, Pammel and Weems on
 429; of Kansas, Hitchcock on 67; of
 Kentucky, Garman on 67
 Gray, Asa, memorial tablet to 75
 Greasewood formation 275
 Greene, E. L., work of 71, 153, 377
 Griffiths, David, personal 156, 444; work
 of 153; "North American Sordaria-
 ceae" 427
 Griggs, Robert F., personal 154
 Growth, Nabokich on anaerobic 435;
 periodicity of in Cactaceae 42, 55
 Gruber, Eduard, work of 66
 Gutierrezia Texana 289

H

Hall, H. M., personal 155
 Hallier, Hans, work of 431
 Hallowell, Miss S. M., personal 379
 Halophytic vegetation 286
 Halsted, B. D., personal 228
 Hapalophragmium, Sydow on 378
 Harkness, H. W., death of 154

Harms, H., work of 71; and Dalla Torre's
"Genera Siphonogamarum" 62

Harper, R. M., work of 378

Harshberger, J. W., work of 429

Hasselbring, H., personal 154

Havardia, Small on 71

Hedlund's "Monographie der Gattung
Sorbus" 373

Hedophyllum, Setchell on 70, 153

Hefferan, Mary 370

Heisen, work of 172

Helosis guayanensis, Chodat and Ber-
nard on 70

Hemlock, water, Brodie on 68

Henderson, L. F., work of 65

Hennings, P., work of 70

Herbarium, committee on national 380;
of von Heldreich, 379

Hesselman, work of 376

Heteroceras, Forti on 71

Heuchera rubescens 263

Hibiscus lasiocarpus 367

Hicoria, branched leaf of 345

Hieracium, Britton on 153

Hilaria Jamesii formation 201

Hill, A. W., work of 224

Histology of Osmundaceae 385

Hitchcock, A. S., personal 156; work of
67

Hollick, A., personal 228

Holm, Theo., work of 377

Holodiscus 57

Holway, E. W. D. 421, 422; work of 374

Hooker, Sir J., personal 380

Horkelia, Rydberg on 70

Hottes, Chas. F., personal 154

Howe, Marshall A., personal 154; work
of 70, 71

Humphrey, H. B., work of 374

Husmann, George C., personal 156

Hyams, C. W., work of 65

Hybridity in palms, Waugh on 68

Hydnum, Banker on 153

Hypoderma of Cactaceae 37

Hyptiodaphne, Urban on 431

I

Ianthe, Williams on 434

Ikeno, work of 68

Ilex opaca, middle lamella of 23

Indiana, Coulter on flora of 429

Inodes, Cook on 435

Insects and flowers 367

Intercellular substance 2

Ipomoea pandurata 367

Irish, H. C., work of 428

J

Jatropha, macrorhiza 122; spathulata 122

Jepson, W. L., personal 155

Johnson, D. S., personal 154

Johnson, T. C. 303

Juglans, nigra 111; rupestris 111

Juncoides, Small on 377

Juncus, Suksdorf on 377

Juniperus, monosperma 216; occidentalis
216; pachyphloea 216, 262; sabinoides
111, 212; formation 213; Virginiana
111, 213

K

Kahlenberg, Louis 437

Karyokinesis, physiology of 423

Kearney, Thomas H., personal 156

Koehnela, Urban on 431

Kofoed, C. A., work of 150

Kolkwitz, work of 431

Komarov, V. L., work of 434

Kraemer, Henry 423

Krameria secundiflora 198

Krigia amplexicaulis 367

L

Laboratory, botanical, of Glasgow Uni-
versity 379; and gardens of Tokyo Im-
perial University, Miyake on 379

Lacinaria, Greene on 377

Lactariopsis, Hennings on 70

Lamella, origin and nature of the mid-
dle 1

Laminariaceae, Setchell on 70

Lamson-Scribner, F., personal 155; work
of 71; "American grasses, II" 62

Land, W. J. G. 69

Lang, W. H., work of 376

Lange, D., work of 374

Larrea Mexicana 287, formation 275

Lathyrus odoratus, abnormal flowers 346

Lauraceae, Mez on 71

Lawson, A. A. 72, 152; personal 74, 227

Leaf trace of Osmundaceae 400

Leaves, abnormal 345

Leersia oryzoides, DuSablon on 67

Leguminosae, Harms on 71

Lepidodendron Braunii 179

Lepidostrobus Veltheimianus 179

Leptilon Canadense, fasciation of 343

Lesquerella, Greene on 377

Lespedeza, Bicknell on 377

Leucophyllum Texanum formation 274

Lewis, Arthur Carr 423; personal 228

Liatris pycnostachya 198

Lichens of Africa, Wainio on 430
Linaria, *Canadensis* 106; *spuria*, Du Sa-
 blon on 67
 Lindau, G., work of 71
 Lister, Arthur, work of 430
 Liverworts, Howe on 71; of Africa, Ste-
 phani on 430, 431
 Livingston, B. E., 147, 148, 292
 Longo, B., work of 63
 Lopriore, G., work of 71, 377
Lycopus, Steele on 434
 Lyon, F. M. 124, 170, 376, 433; personal
 227
 Lyon, Harold, personal 155; work of 374
Lysimachia terrestris, MacDougal on 65
Lupinus subcarnosus 210, 273

M

Macallum, A. B. 72
 MacDougal, D. T., personal 227, 228;
 work of 65; "Textbook of plant physi-
 ology" 148
 Macmillan, Conway, personal 155
Magnolia grandiflora 111
Mahonia, Fedde on 378
 Makino, T., work of 153
 Malformations 343
Mamillaria Grahami, anatomy of 48
 Marine algae of Africa, Barton on 430
 Masee, George, work of 378
 Masters, Maxwell T., work of 153
 Matsumura, J., work of 377
 Medulla of *Cactaceae* 39; of *Osmunda-*
ceae 397
 Medullary rays, middle lamella of 18
 Meehan, Thomas, death of 443
 Megasporangium, of *Selaginella apus*
 131; of *S. rupestris* 138
 Megaspore, of *Selaginella apus* 126; of
S. rupestris 138
 Meinshausen, K. Fr., work of 434
 Meissner, work of 356
Melampodium, Robinson on 153
 Meliaceae, De Candolle on 71
Melica, Suksdorf on 377
 Memorial tablet, to Asa Gray 75; to T. C.
 Porter 74
 Merrill, Elmer D., personal 156; work of 71
 Mesquite formation 272
 Mesogamy, Longo on 64
 Mexico, Fernald on plants of 153; Robin-
 son on plants of 153
 Mez, Carl, work of 71, 431
 Microsporangium, of *Selaginella apus*
 135; of *S. rupestris* 139
 Microspore, of *Selaginella apus* 132; of
S. rupestris 139

Miehe, H., work of 377
 Millardet, work of 175, 177
 Mimosaceae, Small on 71
 Mimoseae 268
 Minnesota, Botanical Studies 374; Sea-
 side Station 155
 Mistletoe, Wheeler on dwarf 68
 Mitosis, simultaneous 241
 Miyake, Kiichi, work of 379
 Mohr, Charles, death of 227; bibliogra-
 phy of 379; sketch of 443; "Plant life
 of Alabama" 371
 Molisch's "Milchsaft und Schleimsaft"
 369
 Monarda, Rydberg on 378
 Moore, G. T. 309; personal 74, 156
 Mosses, of Africa, Gepp on 430; of
 Greenland, Dusén on 375; of Yukon,
 Williams on 72; on trees 422
 Mucorineae, phylogeny of 164
 Murrill, W. A., personal 228
 Mushrooms, Henderson on 65; Hyams
 on 65
 Mycetozoa of Africa, Lister on 430
 Mycological notes, Williamson on 429
 Mycorrhiza of arctic plants, Hesselman
 on 376
 Myrsinaceae, Gilg on 71; Mez on 431
 Myxoderma, Schmidle on 378

N

Nabokich, work of 435
 Naturalists, meeting of 444
 Needles, Meisner on 356
 Neljubow, D., work of 151
 Nelson, Aven, personal 228; work of 68,
 153
 Nelson, Elias, work of 434
 Nelson, N. L. T., personal 307
 Němec, work of 375; "Die Reizleitung
 und die reizleitenden Strukturen" 146;
 "Wahrnehmung des Schwerkraftreizes"
 145
Nemophila, Eastwood on 70
Nerium oleander, middle lamella of 17
Nitragin, Dawson on 375
Nocca, Robinson on 153
 Nomenclature 421; instability of Roches-
 ter 359
 Notoptera, Urban on 431
 Nucleus of *Pellia*, Davis on 152
 Nutation of peas, Neljubow on 151

O

Oak, formation of live 265; formation of
 post 264; Rydberg on 72
 Oat smut, Shamel on 64

Oenothera biennis 367
 Oliver, G. W. 306
 Oogenesis in Albugo 159
 Opuntia, arborescens 279; arbuscula, anatomy of 50; frutescens 279; fulgida, anatomy of 49; leptocaulis, anatomy of 51; assimilative tissue of 38; Lindheimeri formation 274, 278; phaeacantha, anatomy of 49
 Orchis mascula 329
 Orton, Wm. A., personal 156
 Osmotic pressure, effect on form 292
 Osterhout, W. J. V., personal 155
 Osmundaceae, anatomy of 381
 Overton, J. B. 434; personal 74
 Oxalis acetosella, Du Sablon on 67

P

Palisade tissue of Cactaceae 38
 Palmetto, Trelease on a Pacific 428
 Palms, Cook on 434
 Pammel, L. H., personal 228; work of 68, 430
 Panicularia, Beal on 153
 Panicum, Ashe on 68; Lamson-Scribner and Merrell on 71
 Papilla, receptive 245
 Paraguay, Chodat on new plants of 71
 Parkinsonia, aculeata 103, 111; Texana 272, formation 274
 Patterson, Flora W., personal 156
 Pear blight, Chester on 151
 Pectose 4
 Peirce, G. J., personal 74
 Pelargonium, abnormalities in 345
 Pellaea, Trelease on a cristate 428; atropurpurea, Trelease on 71
 Peltia, Davis on nucleus of 152
 Pentstemon, Rydberg on 378
 Pericycle of Osmundaceae 386
 Periplocoideae, pollen of 325
 Peronospora parasitica 161
 Peronosporaceae, phylogeny of 164
 Persea Borbonia 111
 Personals: Allen, C. E. 443, 444; Anderson, A. P. 154, 379; Arthur, J. C. 74, 228; Autran, E. 227; Balfour, B. 380; Ball, C. R. 156; Beal, W. J. 228; Bergen, J. Y. 307; Bessey, C. E. 74, 228; Bessey, E. A. 156; Bower, F. O. 227; Brackett, G. B. 155; Britton, E. G. 228; Britton, N. L. 75; Bureau, E. 443; Butler, Eloise 155; Campbell, D. H. 228; Carleton, M. A. 156; Chamberlain, J. H. 156; Chesnut, B. K. 156; Clements, F. E. 75, 228; Clinton, G. P. 154; Collins, G. M., 154; Cook,

O. F. 154, 156; Copeland, E. B. 74; Corbett, L. C. 156; Cornu, M. 154, 443; Coville, F. V. 155; Cowles, H. C. 74; Dandeno, J. B. 307; Denniston, R. H. 443; Dewey, L. F. 156; Dorner, H. B. 443; Duggar, B. M. 156; Earle, F. S. 379; Eastwood, Alice 228; Fairchild, D. G. 156; Farlow, W. G. 227; Galloway, B. T. 155, 228; Gardner, N. L., 155; Gould, H. P. 156; Gray, Asa 75; Griffiths, D. 156, 444; Griggs, R. F. 154; Hall, H. M. 155; Hallowell, Susan M. 379; Halsted, B. D. 228; Harkness, H. W. 154; Hasselbring, H. 154; Hitchcock, A. S. 156; Hollick, A. 228; Hooker, Sir J. 380; Hottes, C. F. 154; Howe, M. A. 154; Husmann, G. C. 156; Jepson, W. L. 155; Johnson, D. S. 154; Kearney, T. H. 156; Lamson-Scribner, F. 155; Lawson, A. A. 74, 227; Lewis, A. C. 228; Lyon, F. M. 227; Lyon, H. L. 155; MacDougal, D. T. 227, 228; MacMillan, C. 155; Meehan, T. 443; Merrill, E. D. 156; Mohr, C. 227, 379, 443; Moore, G. T. 74, 156; Murrill, W. A. 228; Nelson, A. 228; Nelson, N. L. T. 307; Orton, W. A. 156; Osterhout, W. J. V. 155; Overton, J. B. 74; Pammel, L. H. 228; Patterson, Flora W. 156; Peirce, G. J. 74; Philibert, H. 74; Pierce, N. B. 156; Pieters, A. J. 156; Porter, T. C. 74, 379; Ramaley, F. 155, 228; Robinson, B. L. 75, 228; Rolfs, P. H. 156; Rose, J. N. 76, 307; Ruger, Mrs. G. J. 443; Schiffner, V. 443; Schimper, A. F. W. 379; Schofield, C. S. 156; Schrenk, H. von 75, 156, 228; Selby, A. D. 228; Setchell, W. A. 155; Shaw, W. R. 443; Shear, C. F., 156; Shepard, C. U. 156; Slosson, E. E. 228; Smith, E. F. 155; Solereder, Hans 443; Stevens, F. L. 154; Stuart, W. 443; Stuntz, S. C. 444; Swingle, W. T. 155; Taylor, W. A. 156, 228; Thaxter, R. 379; Thornber, J. J. 75; Timberlake, H. G. 443; Townsend, C. O. 156; Trelease, W. 228; True, R. H. 156; Underwood, L. M. 154, 228; Waite, M. B. 156; Weber, H. J. 156; West, W. 379; White, V. S. 228; Whitford, H. N. 74; Wilcox, E. M. 307; Williams, T. A. 444; Winkenwerder, H. A. 443; Woods, A. F. 155; Yendo, K. 155
 Pfeffer, W., work of 171, 177
 Philibert, Henri, death of 74
 Phloem, of Osmundaceae 389; Weiss on 429

- Photomicrography, Dennis on 428
 Phycomycetes 167; phylogeny of 165
 Phyllocomos, Masters on 153
 Phylogeny, of Albuginaceae 157; of Mucorineae 164; of Osmundaceae 415; of Peronosporaceae 164; of Phycomycetes 165; of Saprolegniaceae 164
 Phytogeography, Flahault on nomenclature in 376
 Picea, needles of 356
 Pierce, Newton B., personal 156
 Pieters, A. J., personal 156
 Pilger, R., work of 71, 431
 Pinus, edulis 216, 262, 263; Ferguson on 435; flexilis 106, 262; needles of 356; palustris 111; ponderosa 106, 262; silvestris, middle lamella of 12; protoplasmic continuity in 224
 Piper and Beattie's "Flora of the Palouse region" 62
 Piperaceae, DeCandolle on 71
 Piperia, Rydberg on 71
 Pith cells, middle lamella of 20
 Plankton, Kofoid on 150; Ward on 150
 Plants of Isle Royale, Wheeler on 374; of North Dakota, Bolley and Waldron on 68; of Oklahoma, Bogue on 68; of South Dakota, Saunders on 6; of southeastern Tennessee, Coulter on 429; Rostowzew on drying 306
 Pleurococcus on trees 422
 Pleurophycus, Setchell on 70, 153
 Plums, Waugh on hybridity in 68
 Pollen, development of 325; Strasburger on formation of 433; tube, Longo on 63
 Populus Fremontii 268
 Polyembryony in Tulipa Gesneriana, Ernst on 434
 Porter, Thomas Conrad, memorial tablet to 74; biography of 379
 Potamogeton, polygonifolius in Newfoundland, 58, synonymy of 59; Suksdorf on 377
 Potentilla, Rydberg on 70
 Pound and Clements' "Phytogeography of Nebraska" 374
 Preston, Carleton E. 35
 Primula, Rydberg on 378
 Prizes, Walker 380
 Prosopis juliflora 105, 111, 198, 270; formation 272
 Protarum, Engler on 71
 Proteids, Jost on synthesis of 429
 Pseudomonas, Smith on 430
 Pseudotsuga taxifolia 106, 262
 Ptelea, Small on 71
 Pteridophytes, Carruthers on African 430; North American, Gilbert on 429; of Iowa, Shimek on 153; of Yukon, Underwood on 72
 Pteris aquilina 391; middle lamella of 10
 Puccinia, Circaeae 421; graminis 421; **inanipes** 422; Malvacearum 421
 Pyronema 167
- Q
- Quercus, breviloba formation 214; Emoryi 216, 263, 288; Gambelii 217; grisea 216; marilandica 264; minor 264; undulata 217; Virginiana 266; formation 214
- R
- Ramaley, Francis, personal 155, 228
 Rehder, Alfred 56
 Respiration, intramolecular 303; of barley, Kolkwitz on 431
 Restionaceae, Masters on 153
 Revegetation of Trestle island, Lange on 374
 Reviews: Arnold's "The sea beach at ebb-tide" 222; Bessey's "Structure and classification of diatoms" 150; Britton's "Manual of the flora of the northern states and Canada" 426; Chamberlain's "Methods in plant histology" 372; Chester's "Manual of bacteriology" 370; Church's "Phylloxera" 427; Dalla Torre and Harm's "Genera Siphonogamarum" 62; Engler's "Pflanzenreich" 427; Ganong's "Laboratory course in plant physiology" 148; Gattinger's "Flora of Tennessee" 428; Gibson and Auld's "Codium" 63; Gow's "Flowering plants of Adair county, Iowa" 373; Griffith's "North American Sordariaceae" 427; Hedlund's "Monographie der Gattung Sorbus" 373; Lamson-Scribner's "American grasses II" 62; MacDougal's "Text-book of plant physiology" 148; Mohr's "Plant life of Alabama" 371; Molisch's "Milchsaft und Schleimsaft" 369; Némec's "Wahrnehmung des Schwerkraftreizes" 145, "Die Reizleitung und die reizleitenden Strukturen" 146; Piper and Beattie's "Flora of the Palouse region" 62; Pound and Clements' "Phytogeography of Nebraska" 374; Robinson's "Problems and possibilities of systematic botany" 432; Sturgis's "Literature of plant diseases" 65; Thonner's "Excursionsflora von Europa" 428; Urban's "Symbolae Antillanae" 431; von Schrenk's "Factors

- which cause the decay of wood" 62;
 Weathers's "Guide to gardenplants"
 306; Wettstein's "Handbuch der systematischen Botanik" 61; Weisner's "Rohstoffe des Pflanzenreiches" 373; Wildeman and Durand's "Reliquiae Dewevreanae" 373; Wille's "Studien über Chlorophyceen" 64
 Rhizoids of Chara, Giesenhagen on 431
 Rhizome of Osmundaceae 384
 Rhodoplax, Schmidle and Wellheim on 377
 Rhynchospora, Harper on 378
 Rhynchotropis, Harms on 71
 Ribes viscosissimum 263
 Riccia, Howe on 70
 Richards, H. M., work of 71
 Robertson, Charles 367
 Robinson, B. L., personal 75, 228; work of 153; "Problems and possibilities of systematic botany" 432
 Rock vegetation 284
 Rocky mountains, Rydberg on new plants of 71
 Rolfs, Peter H., personal 156
 Root, of Cereus Fendleri 42; Němec on plagiotropous 375; of Osmundaceae 401; perception and propagation of stimuli in 145; rot of fruit trees, Wilcox on 226
 Rosa, middle lamella of 20
 Rose, J. N., personal 76, 307
 Rostowzew, work of 306
 Roze, work of 176
 Rudbeckia, Small on 377
 Ruger, Mrs. G. J., personal 443
 Rumex, Greene on 377
 Rusts, of North American violets, Arthur and Holway on 374
 Rydberg, P. A., work of 70, 71, 72, 378
- S
- Salix, Ball on 434; Coville on 434
 Sabal, Mexicana 268; *Uresana* 428; Trelease on 153
 Sambucus, Rydberg on 378
 Saprolegnia 161
 Saprolegniaceae 244; phylogeny of 164; oogenesis in 163
 Sargent, C. S., work of 71; "Silva of North America" 443
 Sasa, Makima and Shibata on 153
 Saunders, D. A., work of 68, 374
 Schefflerodendron, Harms on 71
 Schiffner, V., personal 443
 Schimper, A. F. W., death of 379
Schizonotus 56
Schizonotus 44c; tomentosus 57
 Schmidle, W., work of 70, 71, 377, 378
 Schneck J., 305
 Schneider, Albert 142
 Schofield, Carl S., personal 156
 Schrebera, Gilg on 70
 Schrenk, H. von, personal 75, 156, 228; work of 428
 Sclerenchyma, middle lamella of 10
 Scorodophloeus, Harms on 71
 Scott, work of 179
 Scovell, J. T., work of 428
 Seed, Billings on development 433; plants of Yukon, Britton and Rydberg on 72
 Selaginella, lepidophylla 286; rupestris 286; sporangia and gametophytes of 124, 170
 Selby, A. D., personal 228
 Sequoia sempervirens, endosperm of 223
 Sericostachys, Lopriore on 378
 Setchell, W. A. personal 155; work of 70, 153
 Shamel, A. D., work of 64
 Shaw, W. R., personal 443
 Shear, Cornelius F., personal 156
 Shepard, Charles U., personal 156
 Shibata, K., work of 153
 Shimek, B., work of 153
 Shrubs, Small on new 378
 Shull, G. H. 343
 Siderocarpus, Small on 71
 Sieve tubes in Osmundaceae 390
 Sisyrinchium, Bicknell on 435; Suksdorf on 377
 Slosson, E. E., personal 228
 Small, J. K., work of 71, 377, 378
 Smith, Anna L., work of 430
 Smith, E. F., personal 155; work of 430
 Smith, F. Grace 332
 Smut, Clinton on new species 71; Shamel on oat 64; Thomas on 428
 Solanoa 57
 Solanum, Carolinense, Pammel on 68; dulcamara, calcium oxalate in 142
 Solereder, Hans, personal 443
 Solutions, application of normal to biological problems 229, 437
 Sorbaria 58, 440
 Sphaeropsis malorum, Chester on 151
 Sphaeralcea **martii** 60
 Spiraea, *discolor* 57; *Lindleyana* 57; *sorbifolia* 56, 57; *Ulmaria* 58
 Spirostachys occidentalis 287
 Sporangia of Selaginella 124, 170
 Sporobolus, airoides 287; cryptandrus 205; Wrightii 287
 Sporodinia, Gruber on zygospore of 66
 Sporophytes of Selaginella apus 136

Stamens, abnormal 351
 Steele, E. S., work of 434
 Stem of Osmundaceae 384
 Stephani, F., work of 430, 431
 Stevens, F. L., 77, 157, 238; personal 154
 Stigeoclonium tenue, polymorphism in 292
 Stomata of Cactaceae 37
 Strasburger, work of 433
 Stuart, Wm., personal 443; work of 429
 Stuntz, Stephen C., personal 444
 Sturgis, W. C., work of 66; "Literature of plant diseases" 65
 Suaeda, depressa 287; suffruticosa 287
 Succulents, formations 277
 Suksdorf, W. N., work of 377
 Swingle, W. T., personal 155
 Sydow, H. & P., work of 378

T

Tammes, work of 431
 Taxodium distichum 269
 Taxonomy 70, 153, 377, 434
 Taylor, Wm. A., personal 156, 228
 Teratology 343
 Tetraperone, Urban on 431
 Teucrium, Bicknell on 70
 Texas, ecology of western 99, 195, 262
 Thaxter, Roland, personal 379
 Thecanisia *discolor* 58
 Theophrastaceae, Mez on 431
 Thomas, M. B. 373; work of 428
 Thonner's "Excursionsflora von Europa" 428
 Thornber, John J., personal 75
 Thrincoma, Cook on 435
 Thringis, Cook on 435
 Tilia americana, middle lamella of 22
 Timber formations 266, 268
 Timberlake, H. G., personal 443
 Todea, anatomy of 382
 Toumey, J. W., work of 71, 428
 Townsend, C. O., personal, 156; work of 64
 Trachyphyllum, Gepp on 430
 Tracy, S. M., work of 379
 Tragopogon 78
 Trees, pleurococcus and mosses on 422; Small on new 378; of Vermont, Clark on, 68; of Wyoming, Nelson on 68
 Trelase, William, personal 228; work of 71, 153
 Tribulus, terrestris, Pammel on 68; aurantiacum, Bicknell on 70
 Trifolium, Rydberg on 378
 True, Rodney H., personal 156
 Tubers, Dale on aerial 375

Tulipa Gesneriana, Ernst on polyembryony in 434
 Tylostomaceae, White on 378
 Typha latifolia 329

U

Ulmaria, pentapetala 58; rubra 58
 Underwood, L. M., personal 154, 228; work of 72, 443
 Urban, I., work of 71, 431; "Symbolae Antillanae" 431
 Uredineae, Freeman on Minnesota 374
 Uredo, cestri 422; Hydrocotyles 422

V

Variation, Harshberger on limits of 429
 Vascular system of Cactaceae 40
 Vexillum, abnormal 351
 Viola, Greene on 377; Harper on 378; odorata, DuSablón on 67; Steele on 434
 Vicia, Rydberg on 378
 Von Schrenk's "Factors which cause the decay of wood" 62

W

Wainio, E. A., work of 430
 Waite, Merton B., personal 156
 Waldron, L. R., work of 68
 Wallrothiella Arceuthobii 65
 Ward, Henry B. 150
 Water, storage of 36
 Waugh, F. A., work of 68
 Weathers's "Guide to garden plants" 306
 Webber, H. J., personal 156
 Weeds, Pammel on 68
 Weeksia, Setchell on 70, 153
 Weems, J. B., work of 430
 Weiss, F. E., work of 429
 Wellheim, work of 377
 West, William, personal 379; work of 430
 Wettstein's "Handbuch der systematischen Botanik" 61
 Wheeler, C. F., work of 64, 68, 374
 Whipple, George C., work of 150
 White, V. S., personal 228; work of 378
 Whitford, H. N., personal 74
 Wiesner's "Rohstoffe des Pflanzenreiches" 373
 Wilcox, E. Mead 226; personal 307; work of 226
 Wildeman, work of 377; and Durand's "Reliquiae Dewevreanae" 373
 Wille, "Studien über Chlorophyceen" 64
 Williams, R. S., work of 72
 Williams, F. N., work of 434

Williams, Thomas A., personal 444
Williamson, E. B., work of 429
Willows, Ball on 434; Coville on 434
Winkenwerder, H. A., personal 443
Woods, Albert F., personal 155
Wyoming plants, Nelson on 153

X

Xylariaceae, Batten on Minnesota 374
Xylem, middle lamella of 13, 17; of
Cactaceae 41; of Osmundaceae 386

Y

Yamanouchi, S., work of 374
Yendo, K., personal 155
Yucca, agave-cactus formation 282; an-
gustifolia 204; formation 288; glauca
271; macrocarpa, formations 283;
rupicola 198; vegetation 280

Z

Zea Mays, double fertilization in 69
Zygospore of Sporodinia, Gruber on 66